the ILLINOIS ENGINEER

Special Program Issue

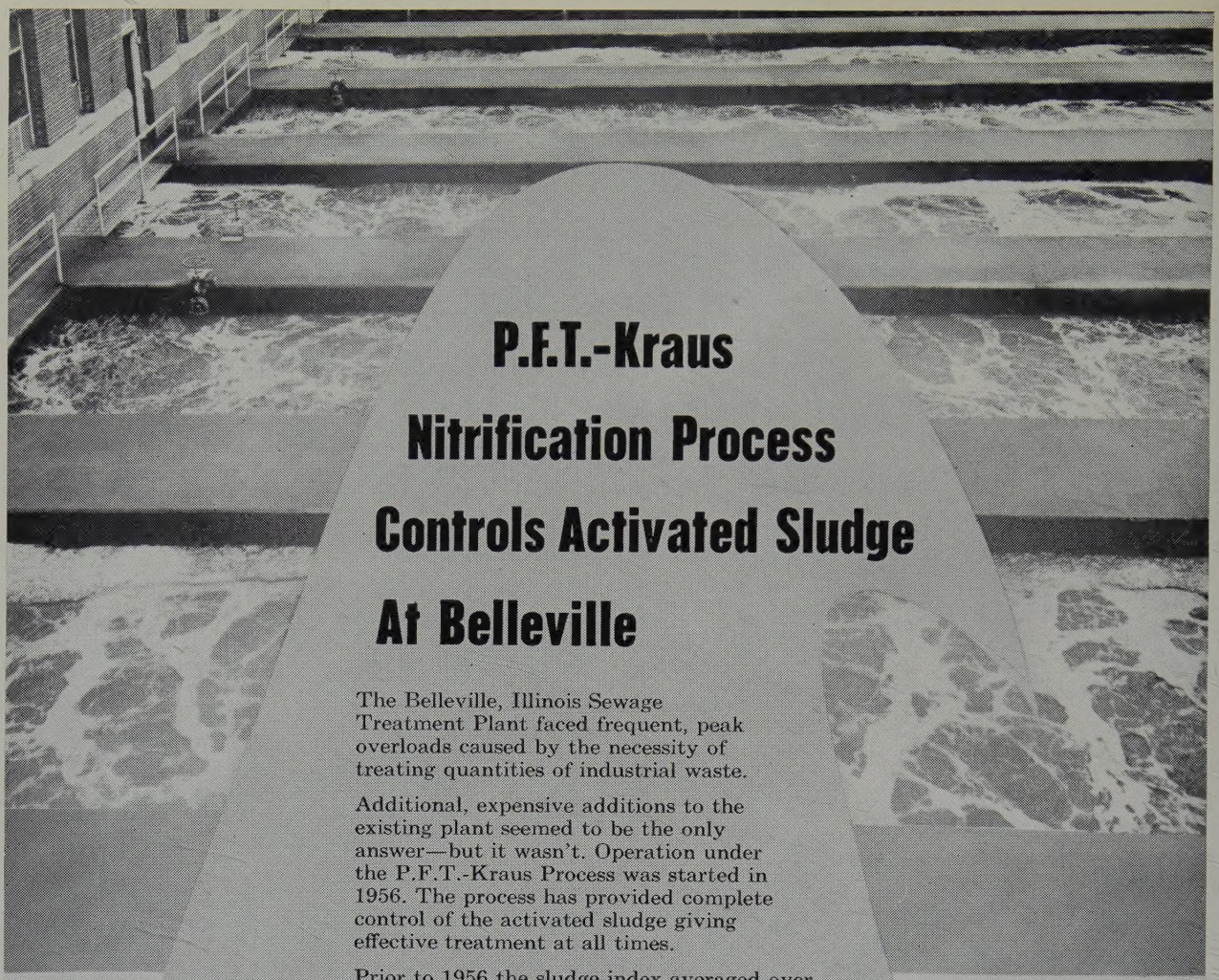
74TH ANNUAL CONVENTION

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THE ILLINOIS ENGINEER, MAY 1959, VOL. XXXV, No. 5



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ILLINOIS SOCIETY OF PROFESSIONAL ENGINEERS, Incorporated
Affiliated with the National Society of Professional Engineers

PROGRESS TOMORROW THROUGH BETTER ENGINEERING TODAY!

35th Year of Publication

FRANK W. EDWARDS, President (74)
LARRY GODDARD, Executive Director and Editor
A. W. NEUREUTHER, Past President (74)
JAMES P. MURPHY, Secretary-Treasurer (74)
DONALD S. MACOWAN, Vice-President (74)
H. E. BABBITT, Secretary Emeritus
MARY WATT, Office Manager and Assistant Editor

EDITORIALLY SPEAKING
"Are You Afflicted With Professional Aloofness?"

A two-day conference under the sponsorship of the Industrial Union Department, AFL-CIO, was held in Washington early this year. The principal subject of the conference was "Meeting the Needs of Scientific and Professional Workers." (For a complete report of this meeting we refer you to the March issue of the *American Engineer.*) During the conference it was declared that the labor movement "has fallen flat on its face" in trying to organize engineers and scientists. The failure was largely attributed to the opposition of the National Society of Professional Engineers which, the speaker said, "has engaged in violent anti-union propaganda." To offset this the union leaders concluded that the major job for the union movement is to reach the engineering students and prove to them that trade unionism is dignified. The AFL-CIO is attempting to use the central theme that "the engineer knows deep down that he is just another employee but he has to be sold on this".

In a pamphlet distributed by the American Federation of Technical Engineers, an affiliate of the AFL-CIO, the title was used which we adopted for this editorial—"Are You Afflicted with Professional Aloofness?" Our theme is "Yes, we are afflicted with Professional Aloofness"; and, if you as a professional man —a professional engineer—are not cognizant of your professional status, then it is time that you take a second look at your chosen avocation and become thoroughly "afflicted".

What is a profession, or a professional person? Professionalism is aptly described as characteristics of conduct, aims, and qualities. Any person who pursues an activity to the extent that he becomes thoroughly and specially educated and trained in order that he may conform to the highest standards in that field of endeavor is a professional man in the truest sense of the meaning. He is not content to be "a run of the mill performer"—he is not an amateur. He aspires for distinction, prestige, and recognition that can be attributed to one who gives his utmost in the performance of a task or responsibility placed upon him. A professional person has independence of thought and action consistent with his personal integrity. By choosing to follow this course—to avow yourself as one who has attained the highest degree of education and training possible—you then deserve the distinction afforded to your profession. You *should* feel an "aloofness" with humility and dignity. You have earned the right and have accepted the duties and responsibilities to be truly "afflicted" with professionalism. You have attained a personal status of achievement and prestige that only *personal* ambition and sacrifice can accomplish. "Collective bargaining" is no substitute for initiatve. Don't allow yourself to be mislead by "would be" union organizers who say that you are just "*another employee.*" Be professional, act professional, and don't allow anyone to prostitute your professional field. Proudly proclaim "I Am Afflicted With Professional Aloofness".

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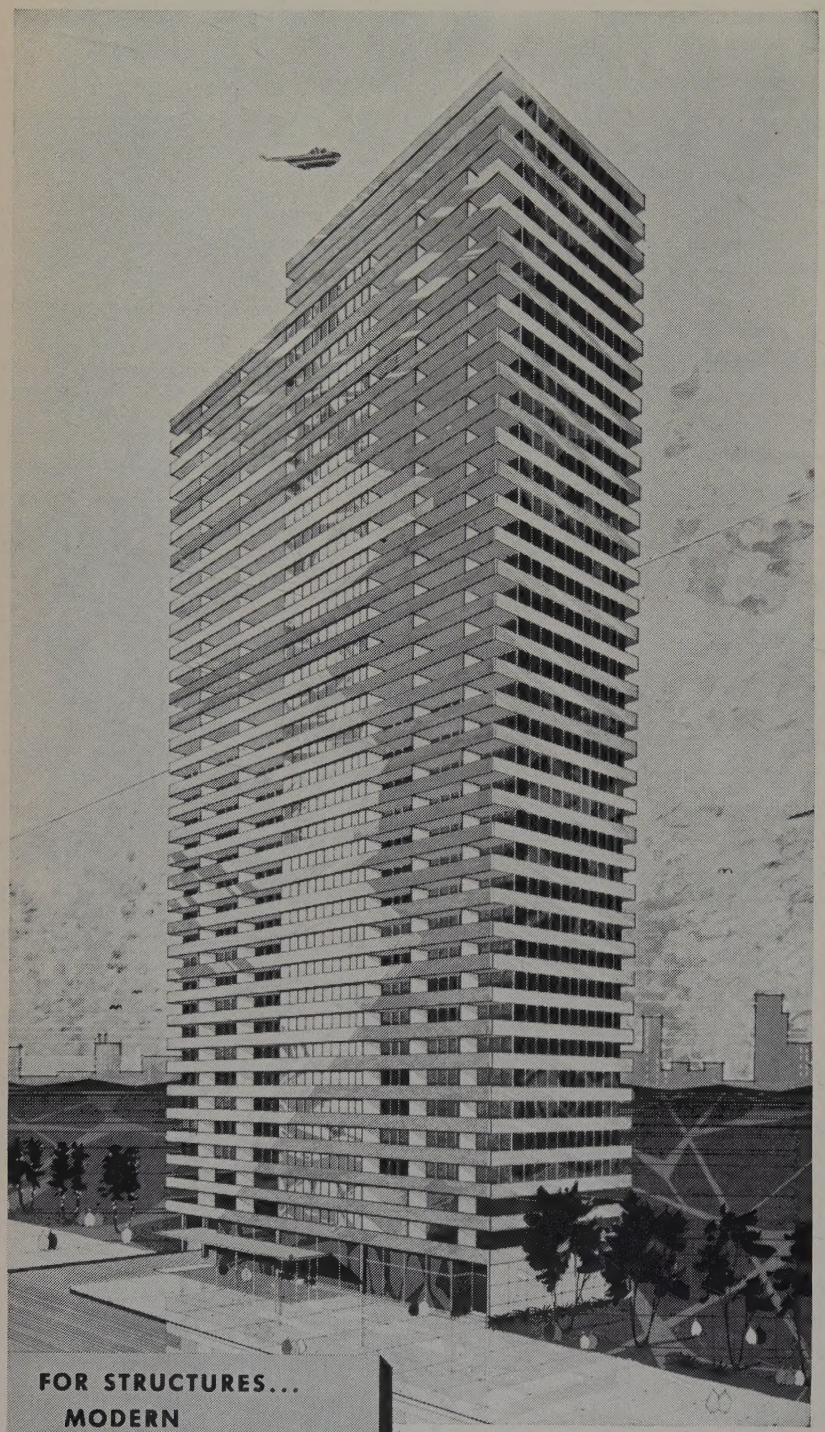
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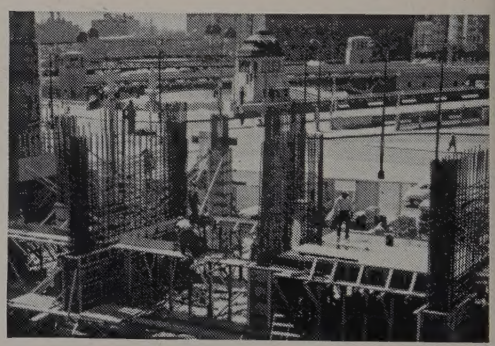


This impressive $6,000,000 building with its 446 apartments brings luxury living to Chicago's business district.

On the 100 ft. x 150 ft. lot, space was at a premium. To make the most of it, architects Milton M. Schwartz & Associates, Inc., and the Miller Engineering Company, both of Chicago, chose *concrete*. With it, apartments are big . . . ceilings a full eight feet. Yet floor to floor height is only 8 ft. 10½ in. Plaster is applied directly to the concrete.

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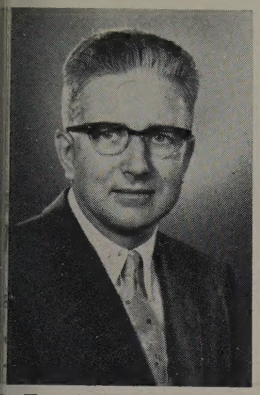
PRESIDENT'S MESSAGE

By Frank W. Edwards

ANNUAL REPORT

Busy Year

After seven Board of Direction, ten Executive Committee and 12 Chapter meetings throughout the State, plus 13 so-called "messages" in The Illinois Engineer and an equivalent number of other conferences, speeches and committee activities, the imminence of becoming a "has been" looks inviting so I hasten to record my annual report.



Frank W. Edwards

This report summarizes the high lights of the past year. Obviously not all items of importance are included because of space limitations. A more complete record is contained in the minutes of Board and Executive Committee meetings, in the abstracts of Committee Reports published in the April issue of this magazine, and in the complete reports of committees distributed at the annual meeting.

Team Work

The most outstanding feature of I.S.P.E. operation during the past year has been the team work demonstrated by the members of the Board of Direction, officers of the chapters, chairmen and members of committees and individual members from all areas of the State. Many specific examples of service can be cited at all levels of the society. All of us owe these loyal and active members a vote of thanks. I am happy indeed to acknowledge my appreciation for their accomplishments.

Major Accomplishments

Law Enforced

Heading the list of accomplishments is the success of a chapter committee. The Ethics and Practice Committee of the Chicago Chapter informed the State's Attorney of a violation of the Illinois Professional Engineering Act, then aided the attorney's staff in preparing and prosecuting the case. This action led to conviction and punishment, the first under the Act. A detailed report of this case appeared in the December, 1958, issue of this magazine.

Ethics

Decisive action was taken by the society in cases involving ethics and practice. The aggressive policy attracted attention and has encouraged members and laymen to refer additional cases to the Society. Whenever appropriate alleged unethical conduct is referred to the local chapter for investigation and remedial action. However, this procedure sometimes is undersirable and cases often are referred to the state committee for investigation and report to the Board. A determined effort has been made to clarify ethical procedures and to promote impersonal review of alleged violations. The resolution covering competitive bidding published in the October issue of this magazine is an example aimed at clarification.

Legislation

The Society has been recognized by others as the leader among professions in protecting their interests in connection with legislation introduced in the present session of the Illinois General Assembly. Assurances have been given by other professional organizations that they will follow the lead of I.S.P.E. in opposing proposed acts detrimental to the general public through their harmful effect on the professions. In performing this service I.S.P.E. has honored its obligation to the Illinois Engineering Council by maintaining liaison with it.

Reorganization

Reorganization was completed in several areas. By-laws approved during the annual meeting last year provided a sound method for distributing the administrative load. Standing committees were assigned to one of three groups: i.e., operations, professional and public relations. The vice president and two assistants to the president each headed one of these groups. Duties and responsibilities of committees were outlined. The new constitution and by-laws adopted in January, 1959, by vote of the membership established three elective vice presidents to perform these administrative functions, thus endorsing and continuing the principles of organization established last year. The new constitution and by-laws incorporated many other beneficial changes also.

A headquarters staff, lead by an executive director —a lawyer by training and an association executive by experience—assisted by a capable office manager, was furnished new office space, additional furniture and files, and modern reproduction equipment in order to provide better service to members.

ILLINOIS ENGINEER

The magazine was increased in size and its financial position was improved. In January, 1959, for the first time as far as can be determined, advertising income exceeded printing and distribution costs. Advertising contracts already secured for the calendar year 1959 exceed $7,000, more than double the income from this source last year.

Chapters

I.S.P.E. chapters at the time of this report (April 1) total 21. A year ago the number was 16. Two additional chapters are organizing. Possibly one or both will petition the society for a charter by the date of the annual meeting. Other possibilities for new chapters are being studied.

Many chapters were unusually effective in public relations activities particularly during Engineers' Week. Champaign County Chapter was invited to produce a series of TV-programs extending over a 13 week period. Central Illinois chapter received an invitation for a similar series. The invitations were an outgrowth of programs developed by these chapters for Engineers' Week in February.

Structural Engineers

Structural engineers, after studying various proposals for organizing for professional improvement, established a Functional Section for Registered Structural Engineers within I.S.P.E. This group of engineers thus solved its organizational problem and at the same time placed itself in a position to contribute extensively to the entire profession.

Building Codes

A basic program of benefit to the public and of tremendous public relations value was outlined by the Building and Construction Codes Committee. Implementation of the program is the next step.

Membership

The growth in membership during the past year has been nothing less than phenomenal. A goal of 2,000 new members for the year was established by the membership chairman last April. Results to date show this ambitious total was realistic indeed. Only a small error in timing prevented realization of this goal within the time limit. Let me illustrate. During the first four months following the last annual meeting new members were added at an average rate of 450 per year. During the eleven months since the annual meeting the average rate increased to 700 per year, but during the past two months the rate has been nearly 1500 per year. The rate of increase is accelerating and should climb to well over 2,000 per year in the next few weeks.

Conclusion

I.S.P.E. is on the move! To all of you I extend my best wishes for greater advances in the future.

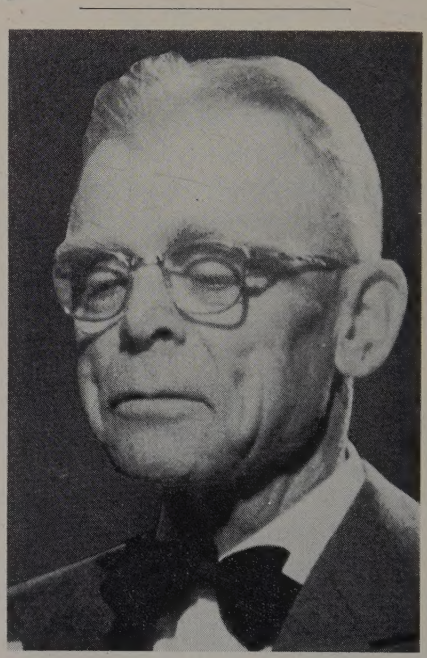
ROCKFORD, which got its name from the Rock Ford which was the early means of wagon crossings of the Rock River, dates back to 1845. When it was incorporated on January 3, 1852, it had a population of about 2500. The town was a muddy stage coach stop on the route from Chicago to Galena.

The Faust Hotel bears the name of a pioneer in the city's machine tool industry, Levin Faust, who was born in Sweden. Today Rockford is a thriving city of some 120,000 persons a majority of whom keep the wheels turning in scores of diversified industries.



Donald S. Magowan

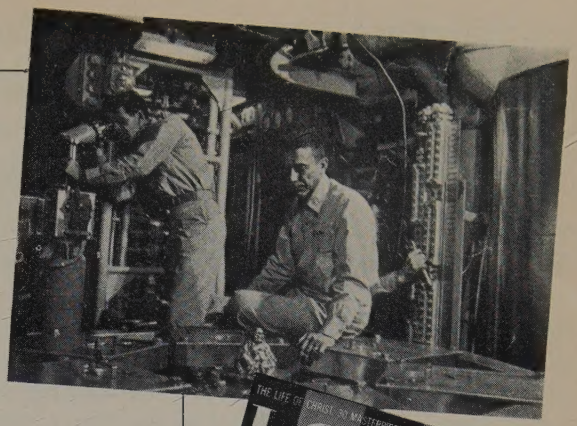
Donald S. Magowan, President-elect of the Illinois S ciety of Professional Engineers, is shown at his desk o lining plans prior to his installation as President at t Society's 74th Annual Meeting in Rockford, April 30, M 1 and 2. "Mac" has the distinction of serving as Preside of three different Chapters of I.S.P.E. He has served President of Capital Chapter in Springfield, Chicago Cha ter, and DuKane Chapter in Elgin. Magowan is Ch Engineer for District 10 of the Illinois Division of Hig ways at Elgin.

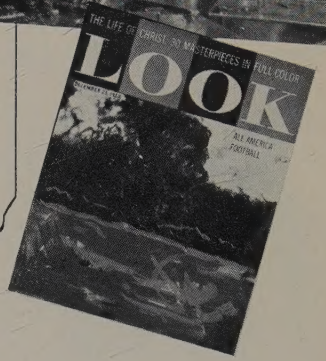


Professor Thomas C. Shedd

Professor Thomas C. Shedd, who has devoted ma years of outstanding service as an educator at the Univ sity of Illinois in the Structural Engineering field, will honored as recipient of the ILLINOIS AWARD at t 74th annual Convention of I.S.P.E., May 1. The Illin Award is an annual presentation of The Illinois Society Professional Engineers to an Engineer in the State who h distinguished himself by meritorious contributions elevating the Profession of Engineering and for individu devotion of thought and energy in safeguarding the w fare of the general public.

Professor Shedd has been a member of the State Boa of Engineering Examiners for a number of years.





SIXTY DAYS OUT OF THIS WORLD

By CAPT. RICHARD B. LANING, U.S.N., as told to J. ROBERT MOSKIN

Deep under the Atlantic in a nuclear submarine, 116 men isolated themselves from this world in an eerie preview of space travel

WHAT was it like to stay submerged under the sea for 60 days in a 338-foot steel tube? The 116 men of the nuclear-powered submarine *Seawolf* sailed for two months in a timeless, distanceless ocean void that made all the familiar realities of the world disappear. We breathed an artificial, man-made [illegible] without any difference between [illegible] were not only [illegible] but also

When we left our base at New London, Conn., we had not conclusively tested our ideas about how we might maintain a livable atmosphere in *Seawolf* for two months. We had only the benefit of knowledge gained in submergences of much shorter duration. In 1957, *Seawolf* submerged for 15 days 19 hours, until she surfaced to provide President Eisenhower his first nuclear-powered ride. And then last spring, Cmdr. James F. Calvert skipper of the nuclear [illegible] waged a friendly co[illegible] surface of the oce[illegible] submerged for 3[illegible] ing oxygen and d[illegible] mark by a sing[illegible]

medical supplies for every eventuality were brought aboard. Our supply of 20,000 spare parts had to be checked. Then, the Lebanon crisis broke out. The Navy was put on 24 hours' notice, a[illegible] were on stand-by alert. If the ball [illegible] were ready to go. But the [illegible] planned exercise was able

The morning we [illegible] Ruth, goo[illegible] at home [illegible]

Skipper to Discuss Capabilities of Atom-Sub in FUTURE WARFARE

The above heading, "Sixty Days Out of This World", reproduced from Look Magazine is a breathtaking account of the Seawolf's underwater endurance record.

During a sixty-day period ending October 6, 1958, naval history was written by the commander and crew of the nuclear-powered submarine Seawolf. For exceptional leadership, Captain Richard B. Laning was awarded the Legion of Merit with citation as follows: "During this period, Captain Laning rendered distinguished service to the Government of the United States in demonstrating the tremendous potential of the submarineborne weapons systems. Exercising unusual professional skill and judgment, he was instrumental in proving the peculiar capabilities of the nuclear-powered submarine to conduct effective operations in coordination with other units of the Navy's Anti-Submarine Warfare Team. An extremely competent and inspiring leader, he demonstrated to the world the ability of the nuclear-powered submarine to remain submerged and independent of the earth's atmosphere for a period of time that could encompass an entire war patrol . . ."

Captain Laning will be the principal speaker at the 74th Annual Banquet on Friday evening, May 1, at the Faust Hotel in Rockford. He will relate his experiences and expand on the over-all "Problems Relating to Anti-Submarine Warfare". Captain Laning is the son of Rear Admiral Richard Henry Laning, M.C., U.S.N., Retired, and Mrs. Marguerite Boyer Laning. He attended Vallejo (California) High School; The University of California at Berkeley; and Swavely Preparatory School, Washington, D. C., before his appointment, at large, to the U. S. Naval Academy, Annapolis, Maryland, in 1936. Graduated and commissioned Ensign on June 6, 1940, he subsequently attained the rank of Captain to date from August 1, 1958.

He has an interesting and varied career as a naval officer having distinguished himself in submarine war patrol duty during World War II. During his period of service aboard the Salmon in her Eleventh War Patrol, scored two direct hits on an enemy tanker, in defiance of four escort ships within 1,000 yards of the target, forced to dive twice her depth test by terrific depth charging, which started many leaks and put vital machinery out of action, she daringly battle-surfaced to effect emergency repairs and fight it out, succeeding in keeping out of effective range of hostile guns and confusing the enemy by evasive tactics until the escort warily closed to ram. In a brilliantly executed surprise attack, she opened fire with every gun aboard to rake the target fore and aft and destroy most of the Japanese topside. For "extraordinary heroism (in this action) . . . in restricted waters of the Pacific . . ." the U.S.S. Salmon was awarded the Presidential Unit Citation.

Captain Laning was awarded the Silver Star Medal: "For conspicuous gallantry and intrepedity as Executive Officer and Navigator . . . during the Eleventh War Patrol of (the Salmon)."

He had instruction in Naval Engineering at the Postgraduate School, Annapolis, Maryland, and from October, 1947, to June, 1948, remained there for the course in Radiological Safety Engineering. Between June, 1948 to April, 1950, he had further instruction at the University of California at Berkeley. He had duty at Schenectady, New York, as Prospective Commanding Officer of the U.S.S. Seawolf, the second nuclear-powered submarine to be built, and assumed command when she was comissioned March 30, 1957. The Seawolf is one of two pioneering types of nuclear powered ships.

He is married to the former Ruth Richmond (daughter of a Naval Officer). They have two daughters, Christine and Lucille Laning.

Captain Laning's unusual and historic service to his country will provide a most enlightening speech, which will climax a full and eventful year for the Illinois Society of Professional Engineers.

ENGINEERING EDUCATION IN ILLINOIS— PRESENT AND FUTURE

By WALTER E. HANSON

Partner: Hanson, Collins & Rice, Consulting Engineers, Springfield, Illinois

Member: Illinois Commission of Higher Education

Introduction

This report to the engineering profession in Illinois deals with some activities in engineering education which have occurred during the past two years. After reading this report, it is hoped that engineers will make their ideas known to the Illinois Society of Professional Engineers for publication and further discussion.



Walter E. Hanson

In the summer of 1957, I was asked by the President of the Illinois Engineering Council, Mr. Daniel K. Chinlund, and the past Executive Secretary of the Illinois Society of Professional Engineers, Mr. P. E. Roberts, if I would consent to my name being recommended along with several other professional engineers for appointment to the newly created Illinois Commission of Higher Education. Past experience and a continuing interest in education prompted my consent to the suggestion; and in August, 1957, I was honored by an appointment to the Commission by Governor William G. Stratton.

The Illinois Commission of Higher Education is concerned with all phases and institutions of higher education in the State. The law, passed in 1957, which created the Commission states in part:

"Section 5. The Commission shall have the power and it shall be its duty:

a. To analyze the present and future aims, needs and requirements of higher education in the State of Illinois.

b. To study requests to the Governor or to the General Assembly for appropriations of state funds for higher education for any purpose or in any form whatsoever, and to make recommendations thereon to the Governor and the General Assembly.

c. To study the means and methods of financing the operational and physical plant requirements of hig er education.

d. To study the role of and the need for differe types of institutions and programs of higher educati in the State of Illinois.

e. To compare at its discretion higher education the State of Illinois with other states.

f. To advise the Governor when the Governor m from time to time request regarding any area of high education.

g. To submit a written report on or before the fi Monday of February of each year . . ."

It is a privilege to serve on the Commission. T other members, like myself, are not professional educ tors; nevertheless, we are all profoundly interested the development of higher education to the benefit of a the people of the State. We realize that some of o opinions, decisions and recommendations may not r ceive the endorsement of all interested people. Howeve I know that I speak for the entire Commission when say that we shall endeavor to analyze each problem wit in what we consider to be the whole context of high education in Illinois. Moreover, through current a projected studies, we hope that it will be possible the near future to have a coordinated and unified pla for higher education in the State.

Engineering Education In Illinois—Present and Immediate Future.

One of the first matters given the Commission Higher Education for study was a proposal to remo existing restrictive legislation pertaining to the gra ing of engineering degrees by Southern Illinois Unive sity. Governor Stratton's letter requesting the advi of the Commission is reproduced here:

December 9, 19

Mr. Lenox R. Lohr, Chairman
Higher Education Commission
57th Street and South Lake Shore Drive
Chicago 37, Illinois

Dear Mr. Lohr:

I have received a petition from Southern Illino Incorporated as well as many letters requesting th power be given to Southern Illinois University to gra degrees in Engineering.

As you perhaps recall, Senate Bill No. 5 was intr duced at the last session of the Legislature on this su ject, but the issue was not satisfactorily resolved a was postponed until 1959 by the action of the Sena Education Committee in killing Senate Bill No. 5.

I understand that the Higher Education Commissi has been informed of this problem and I will apprecia it if the Commission will make a study of the questi and report its findings and recommendations to me.

Sincerely,
(Signed) William G. Stratton,
Governor

At the outset of our studies on engineering education, it was felt that we should have the advice and recommendations of the engineering profession. To gain such assistance, a committee was appointed, known as the Special Advisory Committee of the Illinois Engineering Council. All three members of the committee are registered engineers practicing in different geographical areas of the State in the fields of civil, mechanical, and electrical engineering. I shall not go into further detail of the qualifications of the members of this committee, because merely the mention of their names—Frank Edwards, Andy Neureuther, and Rex Woodward—will recall to the memory of all readers the many other contributions which they have made in service to the public and to the profession.

The Special Advisory Committee worked for the most part independently of the many conferences and deliberations of the Commission of Higher Education. They were told that their report would receive careful consideration, but that the Commission's reply to the Governor could conceivably be at odds to their recommendations. Fortunately, this was not the case. The recommendations of the Advisory Committee are reproduced as follows:

Illinois Engineering Council
84 East Randolph
Chicago, Illinois

August 29, 1958

Illinois Commission of Higher Education
160 North LaSalle Street
Chicago 1, Illinois
Gentlemen:

Report of Special Advisory Committee

of

Illinois Engineering Council

to

Illinois Commission of Higher Education

The Special Advisory Committee on Engineering Education of the Illinois Engineering Council appreciates the opportunity to participate in the study and report sponsored by the Illinois Commission of Higher Education. Only through cooperation of the members of the profession from both practice and education with representatives from the state agencies concerned can the high standards required in engineering education be maintained in our state supported institutions.

The Special Advisory Committee has studied the data furnished by the staff of the Commission of Higher Education and, also, has drawn from experience of its own members, both in engineering education and engineering practice in formulating the recommendations in this report.

The Special Advisory Committee recommends:

a. Limitation of enrollment at all levels in the College of Engineering of the University of Illinois to those applicants who demonstrate ability and aptitude, as measured by scientific testing, for successful completion of a rigorous course in engineering.

b. Further intensive study by the Commission of Higher Education to determine, insofar as possible, the portion of total engineering manpower requirements which must be met by graduate professional engineers and the portion which can be met by trained engineering technicians.

c. That plans for future facilities for professional education and for technician training be based on analyses of the study proposed in subparagraph b.

d. Withholding power to grant degrees in engineering from Southern Illinois University at least until results of studies, analyses, and plans suggested in subparagraphs b. and c. are completed.

Limitation of Enrollment

Quality rather than quantity of engineering college graduates grows in importance each year as technology becomes more complex. The number of qualified faculty members definitely is limited. The Special Advisory Committee views with alarm the great influx of inexperienced engineers who are being added to engineering college faculties. Many important lessons in the field of engineering cannot be learned in the classroom. Primarily for this reason graduates must spend a minimum of four years in engineering practice before they are eligible to take the state examination for registration as professional engineers. Yet many recent graduates profess to teach engineering in our schools. Under these circumstances, if for no other reason, the limited resources for conducting professional education should be reserved for those who can benefit most both themselves and society.

Establishment of a counseling and testing program for applicants to the College of Engineering of the University of Illinois would help to eliminate the loss of half of the enrollment between the first and fourth year in the engineering curriculum. The present system inherently is wasteful of faculty talent and of physical facilities. It seems safe to say the majority of students who withdraw from engineering college either lack ability or interest and should not have enrolled in engineering in the first place.

Engineering Manpower

Total engineering manpower comprises two distinct parts. On the one hand is the professional engineer, who needs a well rounded education as well as intensive instruction in mathematics, science and technology in order that he may apply basic principles of science and technology to new situations and reach sound de-

cisions. On the other hand, the engineering technician is skilled in engineering procedures. Although technical in nature, the technician's work is largely repetitive. He has learned to perform certain operations and within limits can exercise judgment in doing them. A four-year college education, however, is not required to learn these techniques.

Unfortunately the major source of supply at the present time of professional engineers and of engineering technicians is the same; i.e., the engineering college. The number of technical institutes offering two year training programs is limited. As a result many industries recruit engineering college graduates only to use them in positions which might better be filled by trained technicians. The number of technicians desirable to aid each professional engineer has been estimated variously from two to ten. If, as indicated by these figures, possibly one third or less of total engineering manpower requirements needs to be graduate engineers, concentrated effort on fully professional education for that third would help to raise the quality of these graduates.

Future Facilities

It is possible that the studies recommended by your Advisory Committee may lead to the conclusion that more training programs of the technical institute type are needed to supply sufficient numbers of trained engineering technicians, whereas existing professional engineering colleges may already have adequate facilities for providing the needs for creative professional engineers. The emphasis should be placed on raising standards materially in the professional schools. This cannot be done simply by increasing enrollments. In fact, such a procedure might have the opposite effect. Graduate programs also must be strengthened and expanded.

The widespread publicity of recent years regarding shortage of engineers has created impressions in the minds of many laymen and educators which can lead to erroneous and costly decisions. In matters as important as these, where expenditures of millions of dollars are involved, fundamental factors must be considered. The studies proposed should lead to sound decisions and planning for the future.

Although there may be certain advantages in having engineering college facilities distributed throughout the state, it is the opinion of the Special Advisory Committee, both from observation and from experience, that few individuals are unable to obtain an engineering education when they possess ability and motivation. It seems doubtful indeed that huge expenditures could be justified merely to benefit these few who possibly might be denied adequate opportunity to pursue the education they desire.

To grant power to Southern Illinois University to award degrees in engineering at the present time would be premature.

Respectfully submitted,

(Signed) F. W. Edwards

Andrew W. Neureuther
Rex V. Woodward
F. W. Edwards, *Chairman*

FWE:als

cc: John G. Duba, President
Illinois Engineering Council
Walter E. Hanson, *Chairman*
Subcommittee, Engineering Education
Illinois Commission of Higher Education

The Commission's staff under the direction of Dr. Robert Johns, Director, and Mr. Clarence Deakins, Deputy Director, gathered information relative to engineering education on a statewide and national scope. These data generally were organized under four principal groups: (1) professional and employment demands for engineering education, (2) geographic factors, (3) enrollment factors, and (4) expansion factors.

Other information concerning programs of engineering education in the four existing colleges of engineering in Illinois were obtained from conferences with representatives from these institutions (University of Illinois, Bradley University, Illinois Institute of Technology, and Northwestern University). President David D. Henry of the University of Illinois and President Delyte W. Morris of Southern Illinois University presented to the Commission their viewpoints on engineering education in Illinois.

Space here does not permit the publication of the voluminous data and related information compiled and considered by the Commission. If the reader is interested in the complete report, it can be found in the 1958 Annual Report of the Commission of Higher Education, pages 74-148.

After careful study by the Commission of all the available information, recommendations were adopted and transmitted to Governor Stratton in the letter quoted below:

(Continued on Page 18)

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Dr. Clark Allan Dunn

Dr. Clark Allan Dunn, President of the National Society of Professional Engineers during the past year, has used his wealth of experience and quiet personality very effectively in advancing the national standing of the engineering profession. His experience covers the field from an instrument man to the Director of Engineering Research at Oklahoma State University. He served as Resident Engineer on the construction of several bridges across the Missouri River during the middle '20's, and was Bridge Designer and Construction Engineer for the Arkansas Highway Department from 1927 to 1929. He spent vacation leaves at Westinghouse installations taking electric welding training, and at a Steel Fabricating Plan during another two months' leave. He has been a Consultant to several Oklahoma municipal and state agencies and was Civilian Observer for Task Force Frigid (Army General Forces), Fairbanks, Alaska.

Dr. Dunn has been associated with Oklahoma State University since 1929 as Civil Engineering Instructor, Professor of Civil Engineering, Director of Engineering Research, and Administrative Head of School of General Engineering. He holds degrees from the following institutions: B.S.C.E.—University of Wisconsin, June, 1923; C.E.C.E.—Oklahoma State University, June, 1934; M.S.C.E.—Oklahoma State University, August, 1937; and Ph.D.C.E.—Cornell University, January, 1941. He has done considerable research in the electric welding field and in the investigation of columns with elastic lateral supports. In conjunction with his research work, Dr. Dunn has written numerous articles and pamphlets.

Dr. Dunn has been active in church and civic organizations in Stillwater, which includes the Lions Club, Master Planning Board, and the Chamber of Commerce. He has served in various capacities of the First Methodist Church. He is a member of the following fraternities: Honorary: Phi Kappa Phi, Sigma Tau, Chi Epsilon, Phi Alpha Theta; and Social: Tau Kappa Epsilon. He has been extended the honor of being included in the following: Who's Who in America, Who's Who in the Southwest, American Men of Science, McMullen Fellowship of Cornell University, Leaders in American Science, Who's Who in Engineering, Who's Who in Education, Who's Who in Commerce and Industry, and Who Knows—and What.



Paul N. Doll

Paul N. Doll, P.E., Executive Director of the Missouri Society of Professional Engineers, has an effervescent personality which radiates a warmth in any endeavor which he undertakes. He was born and reared in Hamilton, Missouri, and attended the University of Missouri from which he holds a Bachelor's and a Master's Degree in Agricultural Engineering. He was an outstanding lineman on the Missouri football team in the early '30's, and he maintains an active interest in the athletic program at Missouri.

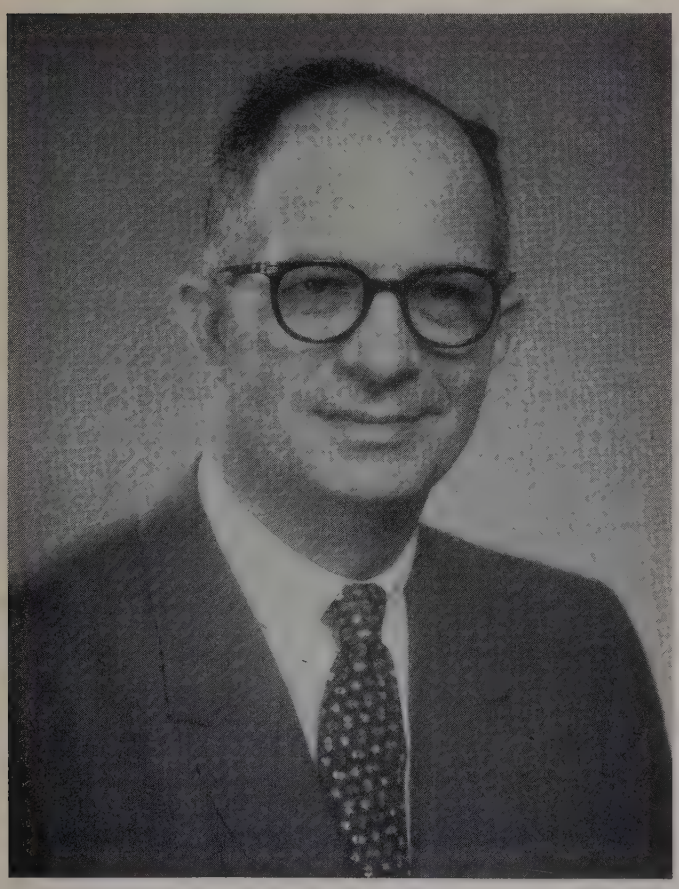
He was Director of Agricultural Industries, Missouri

(Continued on Page 10)

(Continued from Page 9)

Division of Resources and Development, from 1944 to 1946. In 1946 he was named Manager of the Missouri Limestone Products Association, which position he held at the time he became Executive Director of M.S.P.E. He is a gentleman farmer and owns and operates several hundred acres of Central Missouri farmland. He is chairman of the Student Awards Committee of the American Society of Agricultural Engineers. In addition to his professional activities Paul contributes a great amount of time to church and civic activities. He is an elder in the First Presbyterian Church at Jefferson City and is Past President and District Governor of the Rotary Club. He has been Chairman of the Greater Jefferson City Committee since 1949, an organization dedicated to the advancement and development of the city. Doll is a Tau Beta Pi and has gained recognition of being listed in Who's Who in Engineering and was recently given an Outstanding Service Award by the Jefferson City Chapter of M.S.P.E.

Paul's devotion to his community and profession is a living answer to the subject "Why A Professional Attitude?"



James D. Piper

James D. Piper, Vice President for Promotion, joined the Portland Cement Association in 1937 as a structural engineer in its Oklahoma City office. He served as structural engineer in the Austin, Texas, office of the Association from 1939 to 1942, when he entered the U. S. Naval Civil Engineer Corps (Seabees). Following 30 months' duty in the South Pacific, during which he rose to the rank of Lieutenant Commander, he returned to the P.C.A. in 1945 as a structural field engineer with headquarters in Houston, Texas. In 1946 Mr. Piper was appointed District Highway Engineer in the Association's Dallas Office. He became District Engineer for Texas in 1949. On February 1, 1955, Mr Piper was appointed to his present position, in which he supervises promotion activities of the Association throughout the country, including the work of the Association's 32 district offices serving 46 states, the District of Columbia and British Columbia.

Prior to joining the Portland Cement Association, Mr. Piper was an architectural engineer for the State of Oklahoma. He was graduated from Oklahoma Agricultural and Mechanical College, with a Bachelor of Science degree in architectural engineering. He studied and was a graduate assistant in the Civil Engineering Graduate School at the University of Illinois.

Mr. Piper is a registered professional engineer and licensed architect in Texas, and a licensed civil engineer in Oklahoma. He is a member of the American Society of Civil Engineers.



Captain Richard B. Laning, U.S.N.



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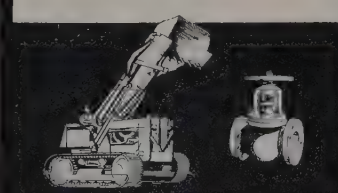
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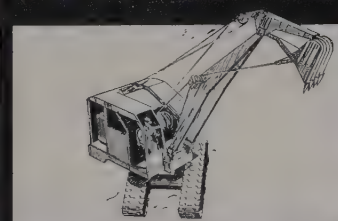
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74th ANNUAL MEETING PROGRAM

WEDNESDAY, APRIL 29

7:00 P.M. - 10:00 P.M.—Registration and Welcoming at Faust Room.
Hosts: Henry Reidesel, Linas Brown, Royce Johnson

THURSDAY, APRIL 30

8:00 A.M. - 6:00 P.M.—Registration and Welcoming at Faust Room.
Hosts: Rob Roy, Dwain Wallace

9:30 A.M. - 11:45 A.M.—74th Board of Directors' Meeting—Rockford Rooms A and B (Society Members welcome to attend)
Presiding—Frank Edwards, President

10:00 A.M. - 10:15 A.M.—Coffee Break—Faust Room, sponsored by the Aurora Pump Division

12:00 Noon —Luncheon at the Junior Ballroom
Presiding—Wayne Wallace, Past-President I.S.P.E.
Invocation—Rev. Murley Severtson, The Lutheran Church of the Good Shepherd
Welcome—Honorable Benjamin T. Schleicher, Mayor of Rockford
Introduction of Speaker by Wayne Wallace, Past President of I.S.P.E.
Speaker—James D. Piper, Vice President of Portland Cement Association. Topic: Russian Visit with slide illustrations.

2:00 P.M. - 5:00 P.M.—Continuation of 74th Board Meeting in Rockford Rooms A and B
2:00 P.M. - 4:30 P.M.—Inspection Tours (Optional)
2:00 P.M. —Functional Section Meetings:
1. **Education**—Dr. H. V. Hawkins (Grand Ballroom) 11th Floor
2. **Industry**—Royce Johnson (Grand Ballroom) 11th Floor
3. **Highways**—Kenneth Welton (Jr. Ballroom) 11th Floor
4. **Private Practice**—J. D. Voorhees (Grand Ballroom) 11th Floor
5. **Surveyors**—Arnold Lundgren (Grand Ballroom) 11th Floor
6. **Structural**—Roland Olsen (Colonial) 2nd Floor

5:00 P.M. - 8:00 P.M.—Registration at the Wagon Wheel
5:30 P.M. —Cocktail Hour, In Pagaille, at the Wagon Wheel, sponsored by Streator Drain Tile Company and American Vitrified Products Company
6:30 P.M. —Buffet Dinner at the Wagon Wheel (Trophy and Garden Rooms)
After dinner Recreational facilities at the Wagon Wheel

FRIDAY, MAY 1

8:00 A.M. - 7:00 P.M.—Registration and Welcoming at Faust Room.
Hosts: Alex Van Praag, Jr., Arthur Kaindl, Arnold Lundgren

7:00 P.M. - 8:00 P.M.—Registration and Welcoming on 11th Floor
8:30 A.M. - 11:45 A.M.—74th Board of Director's Meeting at the Grand Ballroom
Presiding—Frank Edwards, President
9:30 A.M. - 10:30 A.M.—Wheelbarrow Parade, East State Street
12:15 P.M. - 2:00 P.M.—Luncheon at the Junior Ballroom
Presiding—Donald S. Magowan, President-elect
Invocation—Rev. Gehl Devore, Grace Methodist Church

Speaker—Dr. Clark A. Dunn, President of the National Society of Professional Engineers. Topic: "Enhancing the Role of the Engineer in Industry".

2:30 P.M. —Continuation of the 74th Annual Meeting in the Grand Ballroom
Speaker—Paul Doll, Executive Director of the Missouri Society of Professional Engineers. Topic: "Why A Professional Attitude?"

4:00 P.M. —**Legislative Forum**
State Representative David Hunter, Jr.

6:00 P.M. - 7:00 P.M.—**Cocktail Hour** at the Junior Ballroom by the Illinois Concrete Pipe Manufacturers Association

7:00 P.M. - 10:00 P.M.—**74th Annual Banquet** at the Grand Ballroom (Dress Optional)
Presiding—Frank W. Edwards, President
Invocation—Rev. Ragnar Moline, The Salem Lutheran Church
Installation of Officers—Dr. Clark Dunn, President of N.S.P.E.
Presentation of Past President's Certificate—Dr. Clark Dunn

7:00 P.M. - 10:00 P.M.—**Presentation of Illinois Award**—Recipient Professor Thomas C. Shedd, of University of Illinois
Speaker—Captain Richard B. Laning, U. S. Navy
Topic: "Role of Nuclear-Sub in Future Warfare"

10:00 P.M. - 1:00 A.M.—**Dance at the Junior Ballroom**—Music by Bill Engberg's 10-piece Orchestra

SATURDAY, MAY 2

8:30 A.M. - 9:15 A.M.—**75th Board Meeting** at Rockford Rooms A and B (All Welcome)

9:15 A.M. - 10:00 A.M.—**Coffee Break and Recess for the Board,** sponsored by the Aurora Pump Division

9:00 A.M. —**Convention Committee Meeting**

9:00 A.M. —**Meeting of All State Committees**

10:00 A.M. - 12:00 Noon—**Continuation of 75th Board Meeting** (All Members Welcome)

12:00 Noon —**Luncheon**

1:30 P.M. —**Continuation of 75th Board Meeting,** if necessary, or Adjournment

LADIES' PROGRAM

Registration—Starts 7:00 P.M., Wednesday, April 29, 1959, and Continues Throughout The Convention

THURSDAY, APRIL 30TH

8:00 A.M.—**Registration Starts**

9:30 - 10:00 A.M.—Cars to go to **"Flowers By Connie"** Dress Shop—Art Gallery

11:30 A.M.—Transportation from Hotel to Luncheon

11:45 A.M.—**Luncheon at "Food Shop"** in Women's Club
Tour of Club

1:30 P.M.—**Flower Arrangement** by Mrs. Felix Hourdequin In Sunroom, Women's Club

2:30 P.M.—**Card Party** in Faust Room (Prizes)

2:30 P.M.—**Tours**
Tinker Cottage
Erlander Home

5:15 P.M.—Join in with Men's Program

FRIDAY, MAY 1ST

8:00 A.M.—Registration

8:30 A.M.—Informal Ladies Get-together to discuss activities around the state

10:30 A.M.—Bus to **"Weiman Furniture Factory"**

12:00 P.M.—**Luncheon** at "Sweden House"
Door Prizes

2:00 P.M.—**Film** on West Indies by Mrs. Roland Schlitz at Y.W.C.A.

3:00 P.M.—**Tea** to follow at Y.W.C.A.

6:00 P.M.—**Cocktail Hour**

7:00 P.M.—**Banquet and Dance** at Faust Hotel (Dress optional)

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75th Year Celebration in Springfield, 1960

The Illinois Society of Professional Engineers will mark its 75th year next Spring when it holds the 75th annual meeting in Springfield. The dates will be 5th, 6th and 7th of May, 1960. The Convention Headquarters will be at the Hotel Saint Nicholas and the management is already cooperating with the convention committee in advance planning to assure a gala affair.

In the winter of 1886 a group of engineers and surveyors met under the leadership of Prof. I. O. Baker at the University of Illinois to discuss mutual problems which led to the organization of the Illinois Society of Engineers and Surveyors, the parent organization of I.S.P.E. From those few founders with vision and foresight has grown the present Society of 3,000 members—and a period of rapid expansion has just begun—which can conceivably reach 10,000 membership in a relatively short time.

Plans are being made to have a great number of exhibits which will depict the 75 years of Engineering and Industrial Progress in Illinois. Make your Plans NOW to be in SPRINGFIELD May 5, 6, and 7, 1960. Help make the occasion a reality of "Progress Tomorrow Through Better Engineering TODAY."

William J. Downer of Capital Chapter, Springfield, is 1960 Convention Committee chairman.



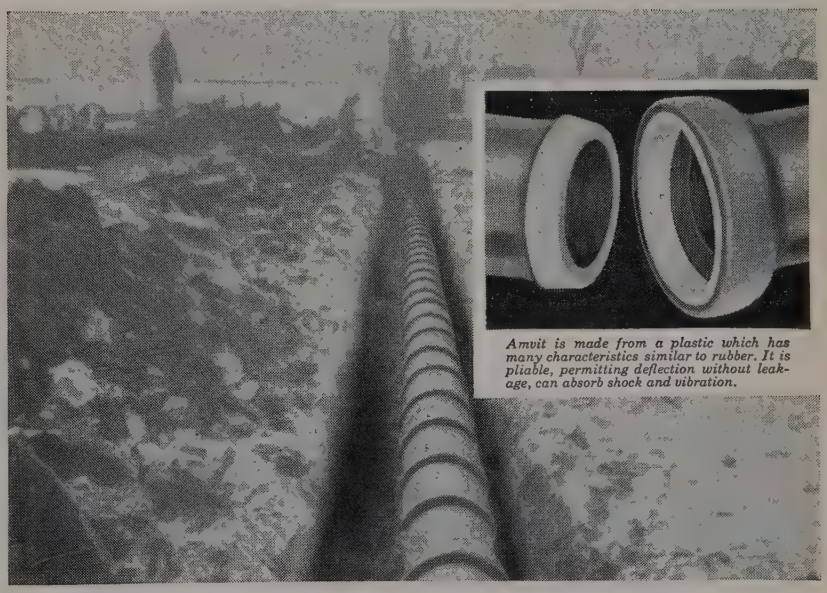
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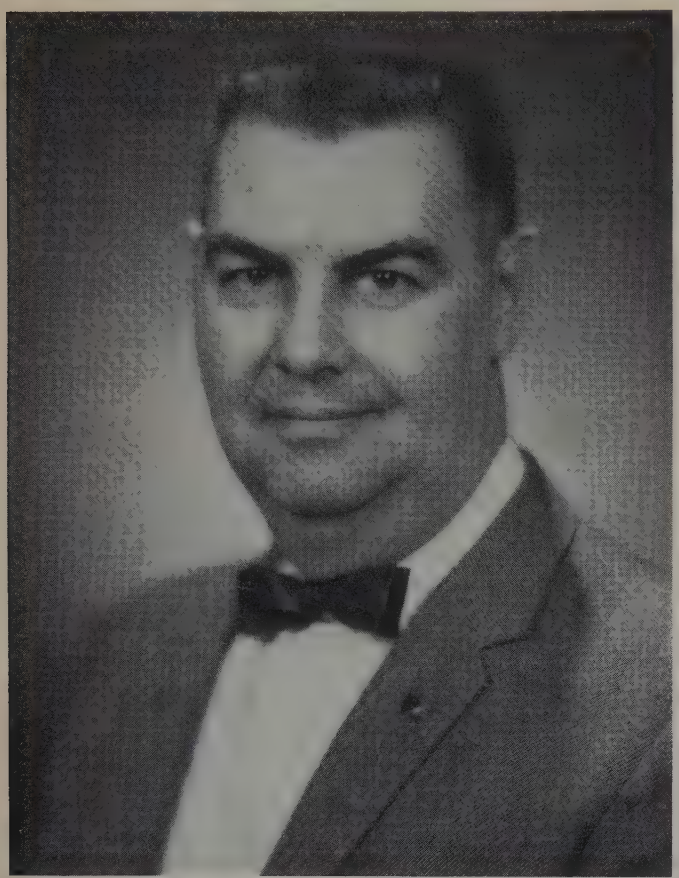
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YOUR NATIONAL DIRECTORS

William S. Gray, National Director-Elect, joined I.S.P.E. in 1945 as a State member and became a National member in 1953. He is from Joliet Chapter and has held all offices at the Chapter level. Bill has also served as Chapter Representative from 1952 to date. In 1956 he was Chairman of the Illinois Award Committee and in 1957 was Assistant to I.S.P.E.'s President.



William S. Gray

Gray was graduated with a B.S. degree in Ch. Eng. in 1936 from Armour Institute of Technology and has been with Peoples Gas Light & Coke Company, Chicago, since that time. He is supervisor of the Gas Accounting Department. His hobbies are electronics for technical interest, model railroading for (as he states it) relaxation from mental fatigue in the wintertime and rose culture in the summertime.

His civic interests and activities include membership on the Citizens Advisory Committee, Joliet Grade Schools, and the Will County Board of School Trustees.

He and his wife, Barbara, and their two daughters Pamela and Diana, reside at 221 Third Avenue, Joliet.

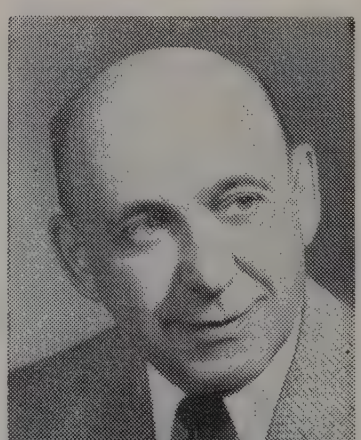
Cecil J. McLean became a member of the Society in 1937 and was elected President of the Rock River Chapter the following year. In 1944 he was elected Vice President of the Illinois Society and in 1945 he became the 60th President of I.S.P.E. He has served both as Chairman and member of numerous committees.



Cecil J. McLean

"Mac" is General Hydraulics Engineer for the Commonwealth Edison Company, Chicago. He holds B.S., M.S., and C.E. Degrees from Michigan State University and the University of Michigan. He is a member of the Chicago Association of Commerce, the Western Society of Engineers, the Illinois Chamber of Commerce and the Edison Engineering Club. He and his wife Edna, reside at 1583 Asbury Avenue, Evanston.

Melvin E. Amstutz, National Director, has been a member of I.S.P.E. since 1931, a National member since 1940. He served as Lake County Chapter President in 1935, State Director in 1937, State Vice-President in 1938, State President in 1939, and as National Director in 1958-59. Amstutz was graduated from Baldwin-Wallace College and Northwestern University where he received a B.S. degree in 1925. He is a member of the Illinois Professional Engineer Examining Board and is a registered professional engineer and land surveyor in Illinois, and a registered professional engineer in Ohio. "Mel" is also a member of the Road and Bridge Law Commission and on the Advisory Board of the Illinois Toll Highway Commission. His present position is Superintendent of Highways of Lake County. He and his wife, Mary Leora, are parents of two children and have three grandchildren. Their home address is Box 169D, Oak Lane Libertyville.



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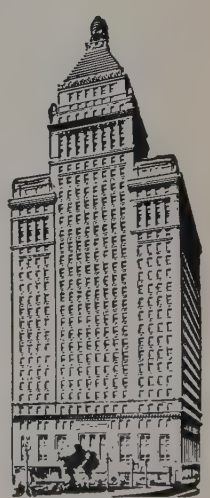
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(Continued from Page 8)

STATE OF ILLINOIS
COMMISSION OF HIGHER EDUCATION

September 4, 1958

The Honorable William G. Stratton
Governor of the State of Illinois
Springfield, Illinois
Dear Governor Stratton:

On December 9, 1957, you addressed a letter to the Chairman of this Commission in which you requested that the Commission report to you its findings and recommendations relative to the establishment of an engineering school at Southern Illinois University.

In summary, your Commission finds and recommends:

1. That until such time as the General Assembly vests the responsibility and authority for the determination of programs to be offered in state-supported higher institutions in some state agency, legislative restrictions are necessary.

1.1. There is no immediate need to modify existing restrictions as they relate to either Southern Illinois University or Northern Illinois University.

2. That the State of Illinois not establish any additional facilities for instruction and research in the field of engineering in the immediate future except under the conditions enumerated below:

2.1. It suggests that under Section 5, Paragraphs a. and d. of the law establishing this Commission, it becomes its continuing responsibility to examine these needs.

2.2. First emphasis in relation to the improvement of engineering education should be given to the development of programs in mathematics and physical sciences in community and junior colleges as well as the state universities.

2.3. At such time as seems reasonable and proper in the light of further study by this Commission, it may be necessary to recommend the establishment of additional engineering facilities in one or more new geographic locations in the State.

2.4. The Commission further suggests that the investment of state funds in the engineering program at the University of Illinois be based on the improvement of quality and on approaching as near optimum conditions as possible for its present program, rather than on undue expansion to provide for future quantity in Champaign-Urbana.

2.5. The establishment of an engineering program in Chicago as a part of the University of Illinois should be considered as part of a plan for state-wide development.

* * *

Your letter made specific reference to Senate Bill No. 5 which was not successfully resolved in the 70th General Assembly. This bill was an amendatory bill which recommended the deletion of the word "engineering" from Chapter 122, Section 421, of the Revised Statutes of Illinois. It should be emphasized that the legislation as it was introduced and subsequently defeated in committee, provided only for the deletion of one word, "engineering."

In studying this question, your Commission finds that two state institutions are limited by law from offering courses culminating in degrees in specified areas. Previous legislation has eliminated the area of agriculture from those restricted at Southern Illinois University. Chapter 122, Section 452, contains similar legislation relating to Northern Illinois University but retains agriculture and engineering among those areas in which the institution may not offer courses culminating in a degree.

The Commission studied this problem from two points of view: First, examination of considerations implicit in restrictive legislation such as relates to Southern Illinois University and Northern Illinois University and, second, consideration of the establishment of a specific program in a specific institution, i.e., the establishment of an engineering school (or the permission to offer courses culminating in a degree in engineering at Southern Illinois University.

Your Commission supports the privilege and right of the General Assembly to provide by law for such restrictions on state institutions as it, in its wisdom, believes right and proper and in the best interests of the citizens of the state of Illinois. It recognizes that, at the time of the establishment of these restrictions, no agency other than the General Assembly had the authority or responsibility for providing these restrictions.

Although your Commission does not believe that such legislation favors the programs of higher education in this State or the clientele which higher education serves, it recognizes that, in lieu of an agency in which is vested responsibility and authority for making such decisions, statutory restrictions are desirable.

Your Commission finds that there is no immediate need to modify this restrictive legislation as it relates either to Southern Illinois University or Northern Illinois University.

* * *

Secondly, the question of adding a specific program to a specific institution, i.e., courses culminating in a degree in engineering at Southern Illinois University was considered. Your Commission recognizes this as a part of its responsibility as provided in Section 5, Paragraphs a. and d. of the law establishing it which state:

"5. The Commission shall have the power and it shall be its duty:

a. To analyze the present and future aims, needs and requirements of higher education in the State of Illinois.

(Continued on Page 20)

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(Continued from Page 18)

d. To study the role of and the need for different types of institutions and programs of higher education in the State of Illinois.''

In examining this proposal, the Commission has attempted to secure as much objective data as might reasonably be useful in arriving at a decision. In addition, the Commission has called on a number of authorities on the administration of higher education, and particularly on engineering education, to supply their opinions. An effort was made to obtain all data, opinions and related information on a state-wide basis in order to consider the problem in its proper perspective. Moreover, the Commission tried in its deliberations not to remove this specific problem from the whole context of higher education in the State.

The previous temporary Higher Education Commission recommended establishment and further development of community or junior colleges in the State. Recent legislation has created four new state universities. This Commission believes that, in the context of higher education as it serves all the people of the state of Illinois, first emphasis in relation to the improvement of engineering education should be given to the development of programs in mathematics and physical sciences in community and junior colleges as well as the state universities. Such development would provide improved course offerings and increased latitude for the subsequent educational pursuit of most students. It would also provide for improved pre-engineering programs which would be readily transferable to the publicly-supported engineering college at the University of Illinois as well as privately-supported institutions such as Illinois Institute of Technology, Northwestern and Bradley.

Your Commission suggests that, in order to facilitate programs of community colleges as well as potentially expanding programs of the other state universities, the University of Illinois should assume responsibility in assuring that its curriculum in the field of engineering is adjusted, in co-operation with these institutions, to integrate courses of study in the lower divisions of these institutions and the upper divisions of the Engineering College at the University of Illinois.

Your Commission invites your attention to the fact that the state of Illinois supports a world-renowned center for engineering instruction and research at the University of Illinois. In addition to this activity, the state of Illinois has, as corporate public service institutions, three approved engineering colleges of national repute.

Your Commission also believes that it should commend Southern Illinois University for the excellent programs it has developed in its Vocational-Technical Institute and for the services that it has rendered to the people of the state of Illinois in the areas to which it is already committed.

After extensive research and investigation, your Commission has not been able to interpret either factua data or subjective opinion as proving that the imme diate establishment of another engineering school an place in the State would be in the best interests of al citizens of the State or those of any geographic regio Neither does it believe such immediate establishmen to be in the best interests of existing engineering pro grams.

It should be understood that this recommendatio does not preclude the possibility that it may becom necessary for the state of Illinois to establish additiona facilities for instruction and research in the field o enginering at one or fore new geographic locations i the future. The Commission believes that this matte should become a continuing item of responsibility, a charged to it in Section 5, Paragraphs a. and d. of th law which created the Commission.

The Commission also suggests that additional ex pansion, including the possibility of establishing a engineering school as a part of the University of Illi nois in Chicago, should be considered on the basis o state-wide trends and needs, both as related to enroll ment and industry. Provision of state funds for th improvement and development of engineering program at the University of Illinois should be based on the en hancement of those programs presently existing an should not provide for anything more than moderat long-range expansion at Champaign-Urbana.

* * *

Addendum I provides a schedule of interviews an studies conducted relative to this project. Addendum I provides a review and analysis of statistical data gath ered for this study. Addendum III provides a genera summary of testimony heard pertaining to this study Addendum IV consists of a recommendation provide for the Commission by an advisory committee appointe by the Illinois Engineers Council.

Respectfully submitted
for the Commission of Higher Education
Lenox R. Lohr,
Chairman

Conclusion—The Future?

The foregoing discussion and the documents pre sented in this report have been concerned with the pres ent and immediate future. The Commission of Highe Education has noted certain improvements and develop ments in engineering education which we believe de serve higher priorities than the immediate establishmen of additional four-year colleges of engineering.

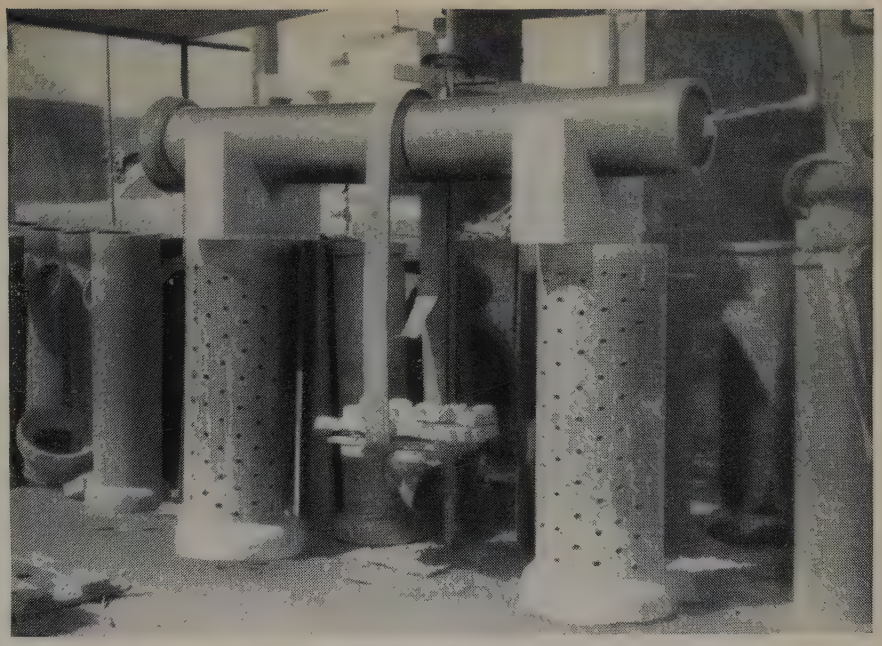
With regard to the future, I pose the following questions to the engineering profession, because they must be definitely and satisfactorily resolved sooner o later.

1. What are your ideas concerning the plans o the University of Illinois for the establishment of

(Continued on Page 22)

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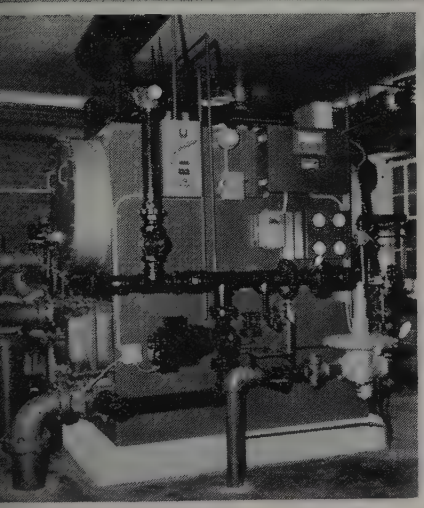
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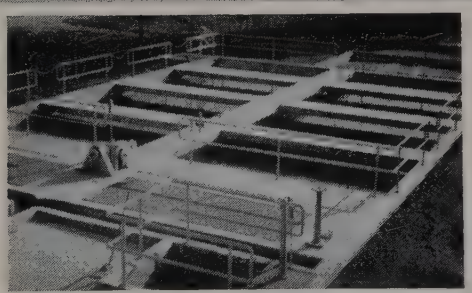
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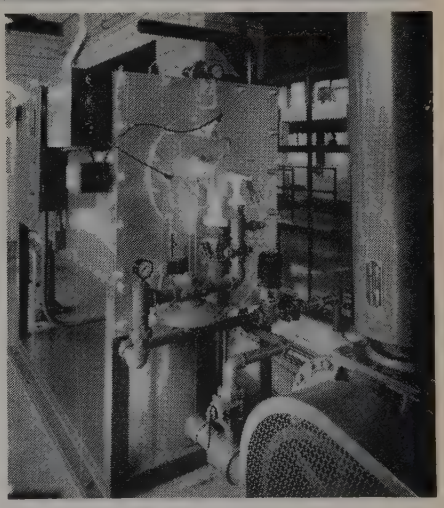
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(Continued from Page 20)

four-year program in engineering at the proposed Chicago Branch of the University?

2. Should the legislative restriction pertaining to the granting of engineering degrees be removed as requested by Southern Illinois University?

3. Should a similar legislative restriction be modified as related to Northern Illinois University?

4. Are there other locations in the State where colleges of engineering should be established?

In my opinion, we cannot at any time in the future determine the answer to any one of these questions without first having obtained a sound basis for an affrmative answer to the following important and closely related questions:

1. Are we satisfactorily accommodating the existing needs in engineering education with regard to physical plant and faculty?

2. Is the composite quality of the student, his instruction, and curricula being stressed as it should be?

3. Is proper emphasis being placed on the development of programs for the education of technicians?

4. Are we making an effort to strengthen and coordinate the pre-engineering curricula in other than the four-year colleges of engineering?

Therefore, it is seen that this matter of engineering education requires continuing study to insure its development within, and in proper relation to, the coordinated planning for the whole context of higher education. To this end, there must be cooperation between all practicing engineers, engineering educators, and university administrators. There will be differences of opinion all along the road of progress, but let us resolve to do the job in accordance with the code of ethics and practice of the engineering profession.

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James P. Murphy, Treasurer-elect, is a partner Crawford, Murphy & Tilly, Consulting Engineer Springfield. He became a National member in 19 and has held all offices in Capital Chapter, serving as i president in 1950. Graduated from the University North Dakota in 1937 with a B.S. Degree in Civil E gineering, "Pat" is registered as a professional e gineer in Illinois, Michigan, and Indiana, and as land surveyor in Illinois. He is a member of the Ce tral Illinois Section of the American Society of Civ Engineers, a member of the American Public Work Association, and of the Institute of Traffic Engineer He is on the board of the Association of Commerce an Industry of Springfield.



James P. Murphy

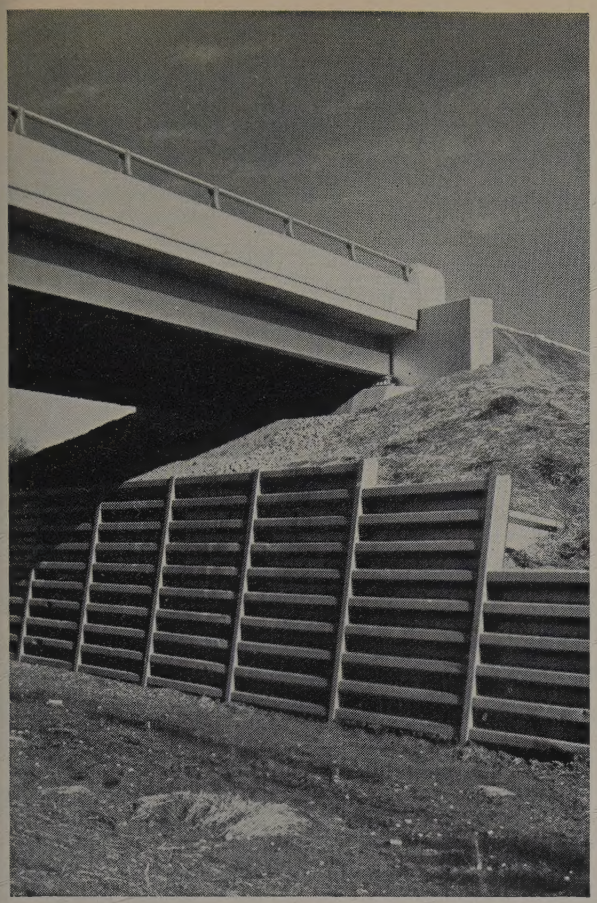
In 1958-59 Murphy served I.S.P.E. as Secretar Treasurer.

He and his wife, Blanche, reside at 236 Maple Gro in Springfield. They have a daughter who is in h second year of college.

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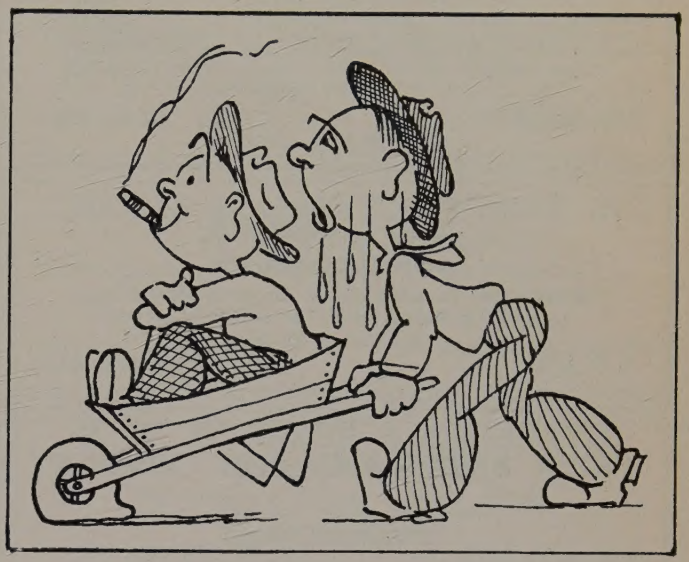
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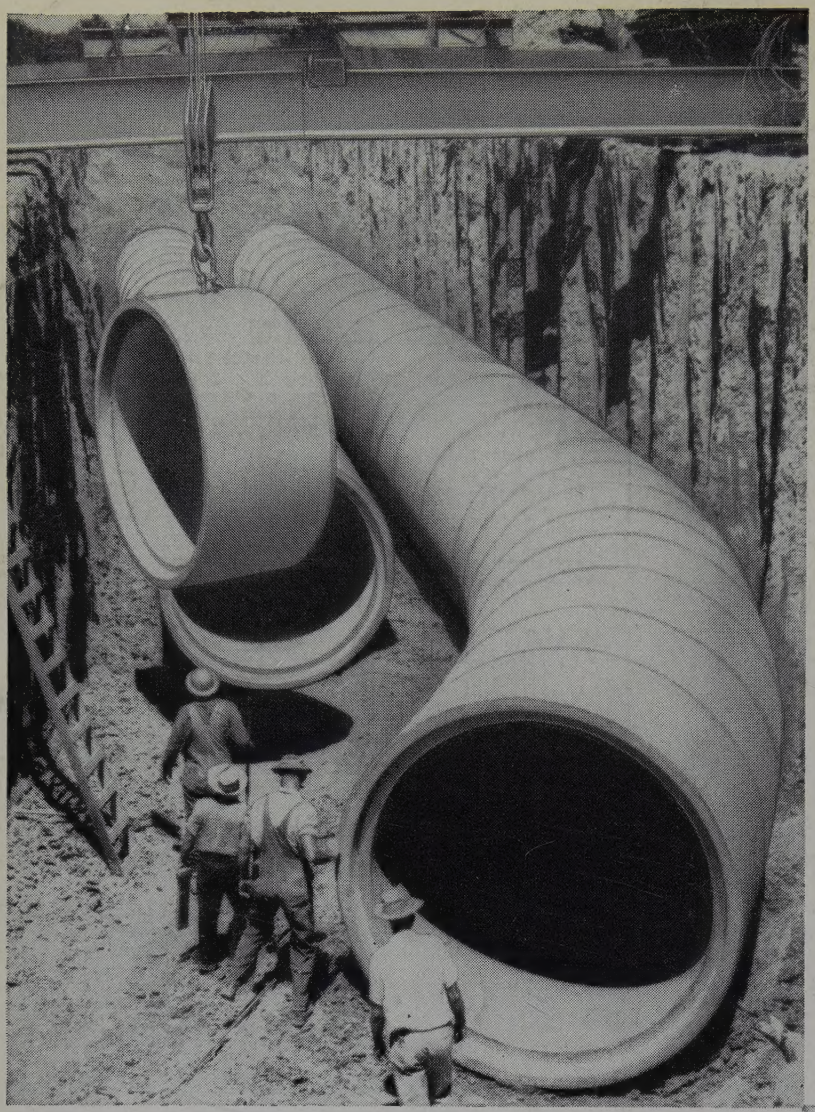
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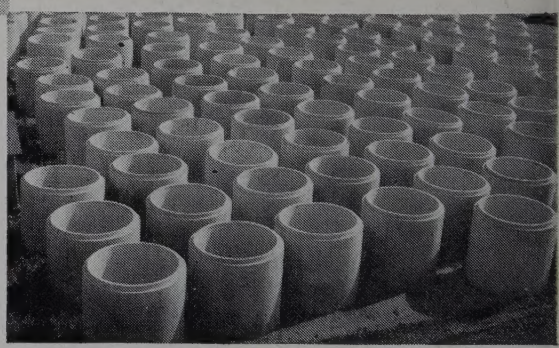
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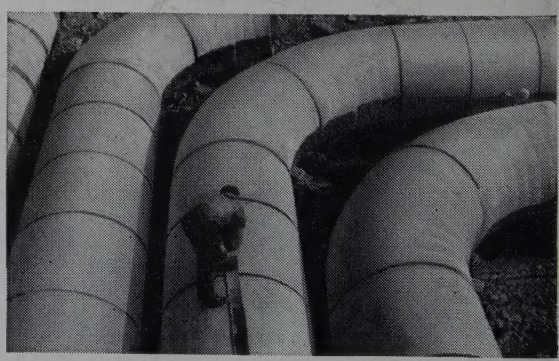
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